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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,514	09/23/2003	Robert Anthony Sayman	60446-248; 03ZFM024/004	1850
26096	7590	02/09/2005	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			HUNNINGS, TRAVIS R	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,514

Applicant(s)

SAYMAN ET AL.

Examiner

Travis R Hunnings

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 20 is not in figure 1 as described and element 40 is not in figure 3 as described. The drawings are also objected to because element 40 in figure 1 is not described in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 9,10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (Sasaki; US Patent 6,125,316) in view of Sterler et al. (Sterler; US Patent 4,788,446).

Regarding claim 1, Sasaki discloses *Method Of And System For Deciding Failures Of Automatic Transmission* that has the following claimed subject matters:

The claimed vehicle driveline comprising at least one of a clutch and transmission is met by the lockup clutch and automatic transmission (col3 7-46);

The claimed vehicle driveline comprising a sensor for determining an undesired condition at said at least one of said clutch and said transmission, said sensor communicating with a control, said control communicating with a primary warning device to provide a warning to an operator of the vehicle of said undesired condition is met by the multiple sensors (S1-S5) and the shift failure decision section that determines that there was a failure of the transmission or lockup clutch and provides a failure signal with which a warning device provides a warning (col3 7-46, 57-68 and col4 4-33);

However, Sasaki does not specifically disclose the claimed said control being operable to monitor the operation of said primary warning device and actuate a secondary warning device should an indication be received that said primary warning device has failed. Sterler discloses *Monitoring Circuit For An Electric Or Electronic Module* that teaches a monitoring circuit that provides a secondary warning of failure if

the primary indicator is inoperative (col1 24-34). It would be beneficial to add the monitoring circuit to the device of Sasaki in order to provide a secondary warning indicator in the case that the primary warning indicator has failed. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Sasaki according to the teachings of Sterler to include a monitoring circuit to provide a secondary warning indicator when the primary warning indicator has failed.

Regarding claim 2, Sasaki and Sterler disclose all of the claimed limitations. The claimed system wherein the vehicle driveline includes both a clutch and a transmission is met by the lockup clutch and automatic transmission of Sasaki (col3 7-46).

Regarding claim 3, Sasaki and Sterler disclose all of the claimed limitations. The Examiner takes official notice that the claimed system wherein said secondary warning is audio is well known in the art and would have been obvious to one of ordinary skill in the art at the time of the invention to use an audible alarm as a secondary alarm.

Regarding claim 4, Sasaki and Sterler disclose all of the claimed limitations. The Examiner takes official notice that the claimed system wherein said secondary warning is a visual warning is well known in the art and would have been obvious to one of ordinary skill in the art at the time of the invention to use a visual alarm as a secondary alarm.

Regarding claim 9, Sasaki and Sterler disclose all of the claimed limitations. The claimed system wherein said sensor senses clutch slippage and said primary warning is provided to an operator to provide an indication of said clutch slippage, and if said primary warning device fails, said secondary warning is then actuated is met by the principle of the shift failure decision section determining the clutch slippage and comparing that to a table of maximum allowable clutch slippage and providing a warning if the clutch slippage exceeds the allowable value (Sasaki; col4 4-16), the secondary warning is provided when the monitoring circuit determines that the primary warning has failed as taught by Sterler.

Regarding claim 15, the claim is interpreted and rejected as claim 1 stated above.

4. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki in view of Sterler and further in view of Hallenstvedt et al. (Hallenstvedt; US Patent 5,992,599).

Regarding claim 5, Sasaki and Sterler disclose all of the claimed limitations except for the claimed system wherein said secondary warning controls operation of a vehicle driveline component. Hallenstvedt discloses *Control System For Intermittently Pulsing A Valve Controlling Forward And Reverse Clutches A Transmission And*

Transmission Fitted Therewith that teaches a vehicle fault detector that has a control circuit that will either light a warning light or activate an engine cutoff device when a fault is detected (col2 46-56). Utilizing the control circuit and engine cutoff device of Hallenstvedt in the device of Sasaki and Sterler as a backup warning to the user would allow the device to protect the engine in the event that a fault is detected and the primary warning has failed, the engine would be cut off which would alert the user and prevent further damage that would be caused by the fault. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Sasaki and Sterler according to the teachings of Hallenstvedt to set up the secondary warning device to control operation of a vehicle driveline component, i.e. the engine.

Regarding claims 6 and 7, the claims are interpreted and rejected as claim 5 stated above.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki in view of Sterler, further in view of Hallenstvedt and further in view of Ivey et al. (Ivey; US Patent 4,131,036).

Regarding claim 8, Sasaki, Sterler and Hallenstvedt disclose all of the claimed limitations except for the claimed system wherein a vehicle brake system is actuated to provide said secondary warning. Ivey discloses *Method And Apparatus For*

Transmission Control System that teaches actuating a vehicle brake system when an error is detected in the transmission system (col8 3-31). Using the controller of Ivey to actuate the braking system of the vehicle when an error is detected would alert the user and slow down the vehicle, which would help to prevent further damage that would be caused by the fault. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Sasaki, Sterler and Hallenstvedt according to the teachings of Ivey to set up the secondary warning device to control operation of the vehicle brake system.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki in view of Sterler and further in view of Steinel et al. (Steinel; US Patent 6,033,342).

Regarding claim 10, Sasaki and Sterler disclose all of the claimed limitations except for the claimed system wherein a pair of sensors sense engine speed and transmission input shaft speed to identify clutch slippage. Steinel discloses *Drive Train Arrangement For A Motor Vehicle Driven By An Internal Combustion Engine* that teaches using two sensors to sense the engine speed and transmission speed and use those two sensed values to compute the amount of clutch slippage occurring (col4 57-67 and col5 1-15). Altering the device of Sasaki and Sterler to use a transmission speed sensor instead of theoretically computing the value would result in more accurate values being computed and a reduction of the computation time of the overall system. Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the device disclosed by Sasaki and Sterler according to the teachings of Steinel to use a pair of sensors to sense engine speed and transmission speed to identify clutch slippage.

7. Claims 11-13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki in view of Gould et al. (Gould; US Patent 6,065,138).

Regarding claim 11, Sasaki discloses the following claimed subject matters:

The claimed clutch and a sensor for monitoring clutch slippage is met by the lockout clutch, the plurality of sensors (S1-S5) and the shift failure decision section determining if a failure has occurred due to clutch slippage (col3 7-46, 57-68 and col4 4-33);

The claimed control for receiving a signal from said sensor indicating a clutch slippage, said control communicating with a warning device to provide a warning to an operator of said clutch slippage is met by the shift failure decision section of the control unit determining if a failure has occurred due to clutch slippage and providing a failure signal with which a warning device raises a warning (col4 4-33);

However, Sasaki does not specifically disclose said control being operable to change said warning should said clutch slippage continue over time. Gould discloses *Computer Activity Monitoring System* that teaches increasing the severity of a warning if a particular event continues to occur over time and nothing is done to correct the situation (col8 23-34). It would be helpful to the user of the device of Sasaki to increase

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the severity of the warning if it continues to occur and nothing is done to correct it because if the problem were allowed to continue then the vehicle would be damaged. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Sasaki according to the teachings of Gould to be able to change the warning provided to the user should the failure continue to occur.

Regarding claim 12, Sasaki and Gould disclose all of the claimed limitations.

The examiner takes official notice that it would have been obvious to increase the frequency of said warnings if said clutch slippage continues to occur. It is well known that one can increase the severity of a warning, as taught by Gould, by increasing the frequency of the warning signals, visual, audible or tactual, provided to the user.

Regarding claims 13, the claim is interpreted and rejected as claim 12 stated above.

Regarding claim 16, the claim is interpreted and rejected as claim 11 stated above.

Regarding claim 17, the claim is interpreted and rejected as claim 12 stated above.

8. Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki in view of Gould and further in view of Lang et al. (Lang; US Patent 4,488,140).

Regarding claim 14, Sasaki and Gould disclose all of the claimed limitations except for the claimed system wherein said increase in frequency occurs if said clutch has an increasing temperature. Lang discloses *Clutch Temperature Monitor* that teaches a clutch temperature monitor that generates warning signals when the temperature of the clutch increases beyond a certain level (abstract). Providing a clutch temperature sensor for the device disclosed by Sasaki and Gould would allow for added protection to the vehicle clutch by detecting another damaging event. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Sasaki and Gould according to the teachings of Lang to include a clutch temperature sensor that provides a warning to the user.

Regarding claim 18, the claim is interpreted and rejected as claim 14 stated above.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Makita, *System To Detect Slippage Of A Clutch...* US Patent 4,499,450


Buch et al. *Clutch Wear Detector, Adjustment...* US Patent 4,567,972
Halliday et al. *Slip Clutch With Slip Detector And...* US Patent 4,605,107
Boehner, *Back-Up Warning Lamp Useful For...* US Patent 5,221,918
Frohlich et al. *Method And Device For Producing...* US Patent 6,446,852
Ewing et al. *Accessory For Providing Light Based...* US Patent 6,611,697

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


DANIEL WU
SUPERVISORY PATENT EXAMINER
02/07/05